

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	10/699,852	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/09/19 14:27
S2	92	Hirose Susumu	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:26
S3	69	Matsumoto Kuniharu	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:27
S4	4173	psoralen	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:32
S5	4	S2 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:28
S6	2	S3 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:29
S11	3374	supercoil\$3 WITH (DNA nucleic)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/09/19 14:34
S12	217	S11 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/09/19 14:32
S13	320	psoralen.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:32
S14	5	S12 and S13	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/09/19 14:32
S15	272	negative\$3 WITH supercoil\$3 WITH (DNA nucleic)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/09/19 14:34
S16	19	S15 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/09/19 14:34

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(FILE 'HOME' ENTERED AT 08:49:33 ON 26 SEP 2005)

FILE 'MEDLINE, CANCERLIT, AGRICOLA, CAPLUS, SCISEARCH' ENTERED AT  
08:49:42 ON 26 SEP 2005

L1 11321 S PSORALEN  
L3 21102 S BIOTIN? (L) (STRETAVIDIN OR AVIDIN)  
L4 18 S L1 (L) L3  
L5 9 DUP REM L4 (9 DUPLICATES REMOVED)  
L6 9 SORT L5 PY  
L7 1472326 S NEGATIVE?  
L8 143 S L1 (L) L7  
L9 70 DUP REM L8 (73 DUPLICATES REMOVED)  
L10 5 S L9 AND (POLYTENE OR DROSOPHILA OR PUFF OR HEAT?)  
L11 5 SORT L10 PY  
E HIROSE SUSUM?/AU  
L12 142 S E4  
L13 3 S L12 AND L1  
L14 2 DUP REM L13 (1 DUPLICATE REMOVED)  
L15 83 S IN-SITU (L) L1  
L16 40 DUP REM L15 (43 DUPLICATES REMOVED)  
L17 3 S L16 AND BIOTIN  
L18 528 S IN-SITU HYBRIDIZATION (L) L3  
L19 3 S L18 AND L1  
L20 1 DUP REM L19 (2 DUPLICATES REMOVED)  
L21 28 S L18 AND (POLYTENE OR DROSOPHILA OR PUFF OR HEAT?)  
L22 15 DUP REM L21 (13 DUPLICATES REMOVED)  
L23 15 SORT L22 PY

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L14 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:1019631 CAPLUS

DN 141:420970

TI Method for detecting negatively supercoiled DNA in eukaryotes crosslinked  
with biotinylated **psoralen**

SO U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

IN Hirose, Susumu; Matsumoto, Kuniharu

AB The invention relates to a method of detecting intracellular neg.  
supercoiled DNA conveniently and efficiently. Biotinylated  
**psoralens**, like **psoralen**, selectively intercalate  
between base pairs of neg. supercoiled DNA. A method for detecting neg.  
supercoiled DNA in cells, characterized by including the steps of  
incorporating biotinylated **psoralen** into cells, irradiating the  
cells with long-wavelength UV rays, causing the cells to react with avidin  
which has been labeled with a color-developing substance, a fluorescent  
substance, or a chemiluminescent substance, and measuring developed color,  
emitted fluorescence, or emitted chemiluminescence of the cells. The  
invention was applied to visualize neg. supercoiled DNA in *Drosophila*  
*melanogaster* salivary gland chromosome. Many **psoralen** signals  
were observed in the salivary gland chromosomes. Such signals were detected  
in many interbands or puffs in which transcription was activated, but not  
detected in every interband or puff. When nicks had been introduced into  
DNA before crosslinking, or transcription had been inhibited before  
crosslinking, **psoralen** signals were not detected. Thus, the  
present invention is the first to visualize neg. supercoiled DNA on  
interphase chromosomes.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004235007	A1	20041125	US 2003-699852	20031104
JP 2004344090	A2	20041209	JP 2003-146059	20030523
CA 2447762	AA	20041123	CA 2003-2447762	20031103

L14 ANSWER 2 OF 2 MEDLINE on STN

DUPLICATE 1

AN 2004382710 MEDLINE

TI Visualization of unconstrained negative supercoils of DNA on polytene  
chromosomes of *Drosophila*.

SO Journal of cell science, (2004 Aug 1) 117 (Pt 17) 3797-805. Electronic

Publication: 2004-07-13.

Journal code: 0052457. ISSN: 0021-9533.

AU Matsumoto Kuniharu; Hirose Susumu

AB Bulk DNA within the eukaryotic genome is torsionarily relaxed. However, unconstrained negative supercoils of DNA have been detected in few local domains of the genome through preferential binding of **psoralen**. To make a genome-wide survey for such domains, we introduced biotinylated **psoralen** into *Drosophila* salivary glands and visualized it on polytene chromosomes with fluorescent streptavidin. We observed bright **psoralen** signals on many transcriptionally active interbands and puffs. Upon heat shock, the signals appeared on heat-shock puffs. The signals were resistant to RNase treatment but disappeared or became faint by previous nicking of DNA or inhibition of transcription with alpha-amanitin. These data show that transcription-coupled, unconstrained negative supercoils of DNA exist in approximately 150 loci within the interphase genome.